IMPACT OF NUTRITION COUNSELLING ON DIETARY BEHAVIOUR OF SCHOOL GOING CHILDREN AND THEIR PARENTS

विद्यालय जाने वाले बच्चों और उनके अभिभावकों में पोषण सम्बन्धी परामर्श का आहार व्यवहार पर प्रभाव

A CORRECTED SYNOPSIS

Submitted for the award of Ph.D. Degree to
Maharshi Dayanand Saraswati University, Ajmer

Subject : Food Science and Nutrition

By
SHWETA SINGH

Under Supervision of

Dr. BHARTI JAIN
Professor, Department of Food Science and Nutrition
MAHARSHI DAYANAND SARASWATI UNIVERSITY, AJMER

Year of Submission - 2014

MAHARSHI DAYANAND SARASWATI UNIVERSITY, AJMER

FORMAT FOR OUTLINE OF PROPOSED RESEARCH WORK

1. Name of scholar (In English) : Shweta Singh
   (In Hindi) : श्वेता सिंह

   Title of the research work

   (In English): **Impact of Nutrition Counselling on dietary behaviour of school going children and their parents**

   (In Hindi): विद्यालय जाने वाले बच्चों और उनके अभिभावकों में पोषण सम्बन्धी परामर्श का आहार व्यवहार पर प्रभाव

3. Location :
   a) Foods and Nutrition Department, Maharshi Dayanand Saraswati University, Ajmer
   b) Geographical Area Of Investigation, if any : **Ajmer**
4. Introduction Importance of Proposed Investigation, Objectives.
5. Review (Work already done on the subject of proposed research study)
6. Research Gaps identified in the proposed field of investigation. (Based on the review)
7. Major Hypothesis, if any
8. Research Methodology.
9. List of References cited.

18/9/15

Signature of the Candidate with date

Outline Approved

18/9/15

Name and Signature of supervisor with date & seal

Dr. Bharti Jain

Associate Professor

Foods and Nutrition

M.D.S University, AJMER

IMPORTANCE OF PROPOSED INVESTIGATION

This research study is aimed to assess nutritional health status of school going children and study of impact of nutrition education and counselling on dietary habits and behaviour of school going children and their parents – A study in Ajmer city.

Since 1947, India has made substantial progress in human development. Still the manifestations of malnutrition are at unacceptable levels. Nineteen per cent of world's children live in India. India is a home to more than one billion people, of which 42 per cent are children. More broadly, malnutrition in India is in a state of silent emergency and thereby demands greater priority than ever before. The nutritional status of population is therefore critical to the development and well being of the nation (National Nutrition Policy, 1993 Government of India). The present status of malnutrition in India is that a devastating half of all the newborns are malnourished and 30 per cent are born underweight making them more vulnerable to further malnutrition and diseases. To evaluate nutritional status, assessors can use measure of body composition and development (anthropometric measurements) or measures of how well the body performs certain tasks (functional tests of nutrition status). Anthropometric measurements and functional tests useful in nutritional assessment indicate that each measurement depends on adequate nutrition. Poor growth in children indicates malnutrition. Malnutrition is an impairment of health resulting from deficiency of calories and/or more essential nutrients, and over nutrition, which is an excess of one or more nutrients and usually of calories.

As we all know that parents are responsible for their children's health and development. They instil and promote certain values, reward or reinforce

specific behaviors, and shape choices that form life-long healthy habits. Each day, parents make decisions on food selection, eating patterns, physical activity, and sedentary habits like television viewing. Children learn from the choices adults make.

For overall health good nutrition is essential. Healthy eating habits in childhood and adolescence are important for positive growth and development and can help children achieve and maintain a healthy weight. Today, the eating habits of many young people are inconsistent with the recommendations in the Federal Dietary Guidelines for Americans (Dietary Guidelines),114 thus increasing the risk of obesity. To assist parents and caregivers in establishing healthy eating habits for children, they should have greater access to the right tools and resources that increase nutritional knowledge and help them make healthier choices.

OBJECTIVES :

1. Assessment of nutritional status of Rural and Urban school going children in reference with–

    a. Anthropometry (Weight, Height, Mid Upper Arm Circumference, TSF ~~Head Circumference)~~ and BMI will be calculated.

    b. Clinical examination

    c. Biochemical (Hb level)

    d. 24 hour dietary ~~recall method.~~ / Diday survey.

2. Comparison of assessment of nutritional status of Rural and Urban school going children.

3. To assess the nutritional knowledge and awareness in school going children and their parents.

4. To enhance the nutritional knowledge and awareness in school going children and their parents.

5. To study the effect of nutrition education and counselling on nutritional knowledge and awareness of school going children and their parents.

REVIEW OF LITERATURE

Jain et al. (2012) carried the study in 500 students of 13-17 yrs of age and they found that the magnitude of overweight (23.8%) and obesity (8.4%) is very high and alarming for both the sex. Eating habits like junk food, chocolate, eating in front of TV etc remarkable effect on prevalence on overweight and obesity among low to high SES group. The study also suggested that under nutrition rates remain high (10.2%) in children. Therefore Special attention has to given for their overall nutrition.

Rasanen et al. (2004) studied the impact of nutrition counselling given to 7.5- to 9 year old children and their parents on children's nutrition knowledge and nutrient intakes. They concluded that this study showed that only a relatively short period of counselling with low input is needed to increase in children's nutrition knowledge and ability to explain nutrition-related subjects if advice has first been given to the parents and if the parents have received reinforcement and concrete help with parent–child communication after their children have been involved in the counselling. The differences attained in nutrient intake could also be maintained.

Khakil et al (2004) studied in 12 rural school of Jawan Block of Aligarh District. The mean height and weight increase monotonically with age along with high degree of positive correlation between height and weight in both boys and girls (except for 14 years of age for girls). The overall increase in a mean height is more in boys (40.52 cm) than girls (37.35 cm), but increase in mean weight was more for girls (19.76 kg) than boys (16.92 kg). It can be concluded that boys are taller than girls but girls are heavier than boys atpre-puberty and puberty (14 years of age).

Kindermann (2006) reviewed that Food Is Elementary program, a nutrition education program recently implemented in eight Baltimore City public elementary and middle schools. In 2006, as part of its Local Wellness Policy, the Baltimore City Public School System required that all schools provide a minimum of 45 minutes per week of nutrition education to 1st through 5th grade students.1 Nutrition education has been recognized as one key element in the fight against the growing obesity epidemic. This study uses one of these eight schools as a case study to examine the effect of a school based nutrition and cooking course on student food consumption patterns. Using qualitative research methods, the study seeks to understand the diet and health impacts of the program in the context of broader influences on food decision-making behavior among students and families.

In 2001, the US Surgeon General's Call to Action to Decrease Obesity and Overweight outlined recommendations to improve children's diets and increase physical activity levels. The report makes light of the multiple causes of obesity and overweight among children and adolescents, and suggests that there is both a biological and environmental component. Before making specific suggestions, the report stresses the importance of adopting both a healthy body image and a healthy relationship with food. The report states that children should exercise at least 60 minutes a day (while noting that almost half of adolescents watch at least two hours of television a day). The report also makes many recommendations relating to diet, such as eating at least five fruits and vegetables a day, reducing caloric and fat intake, and avoiding restrictive diets. The report notes that both individual behavioral change and environmental change are important in addressing the problem of childhood obesity.

Monika et al. (2011) concluded that the nutritional health status of primary school children of rural and urban areas", by assessing their clinical

health status and the quantity and quality of food intake by the children in both the areas of study. Four hundred children of 7-9 years of age were selected from the rural and urban areas of Bareilly district. They were assessed for nutritional health status by applying Clinical Nutrition Survey Chart; 24-hr recall method and Food Frequency Questionnaire. The nutritional deficiency signs and symptoms were observed more in rural children than the urban children. Nutrient intake and consumption frequency of all the 6 food groups was more among the urban children compared to their rural counterparts.

A study done by Srivastava (2008) explained that according to 'National Sample Survey Organisation', twenty per cent people in rural India earn only Rs. 12 a day, of which each person spends just Rs 7 on food. In Orissa and Chhattisgarh, 44 per cent people suffer from such a devastating situation. The survey says life is a shade better in urban India where 22 per cent people spend Rs 19 daily. In urban Bihar, 56 per cent live on this amount.

Kaushik et al. (2012) studied that the nutritional status of primary school children in rural Varanasi and to find out various socio-demographic correlates of nutritional status and found that out of total 816 study subjects 429 or 52.6% (201 boys and 228 girls) were underweight and 75 or 9.2% (39 boys and36 girls) were stunted. Educational status of the parents were found to be significantly associated with the nutritional status of school children.

RESEARCH GAPS FOR PROPOSED INVESTIGATION

There is lot of work had been done on this topic at National level. There are many institutions and organisations that are doing work in this field throughout the nation. But there is less work has been done on this topic in Rajasthan state and particularly in Ajmer city of Rajasthan.

Due to lack of awareness parents are unaware about the nutritional status of their children. This study is designed to assess and compare the nutritional status of rural and urban school going children and to nutritionally educate the parents and children for improving nutritional status, better dietary habits and behaviour.

MAJOR HYPOTHESIS

H_1 : Nutritional status of urban children is likely to be better as compared to rural school going children.

H_2 : There is likely to be significant relationship between nutrition education and counselling on dietary behaviour of school going students and their parents.

RESEARCH METHODOLOGY

The methods and materials used in the present investigation have been discussed under the following sections :

I. Collection of preliminary information
   a. Locale of the study
   b. Selection of subjects

II. Development of tools and collection of data
   a. General information
   b. Specific information

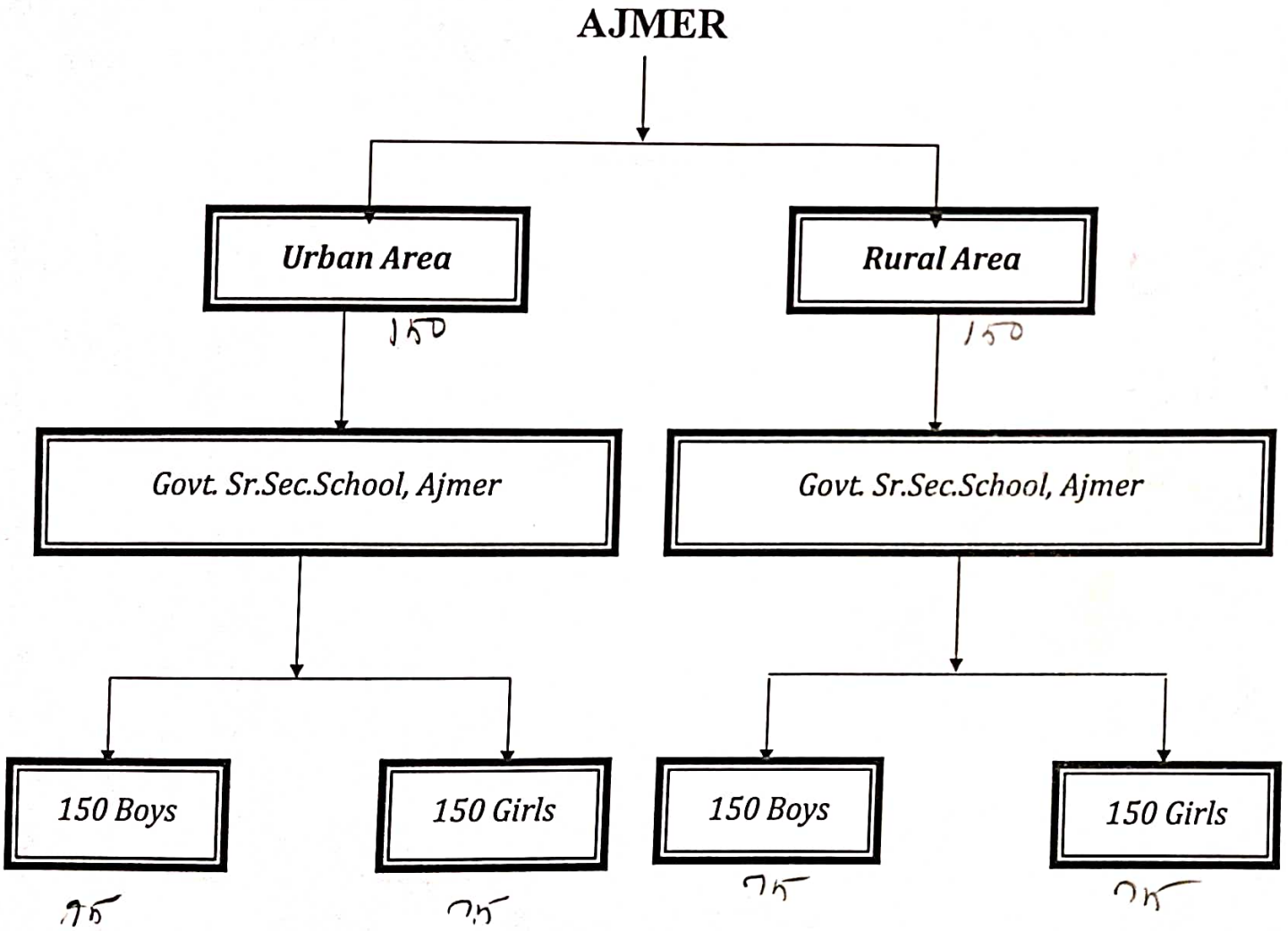
III. Assessment of nutritional status
   a. Anthropometry
   b. Clinical examination
   c. Biochemical assessment
   d. Dietary Survey

IV. Imparting nutrition counselling to school going children and their parents

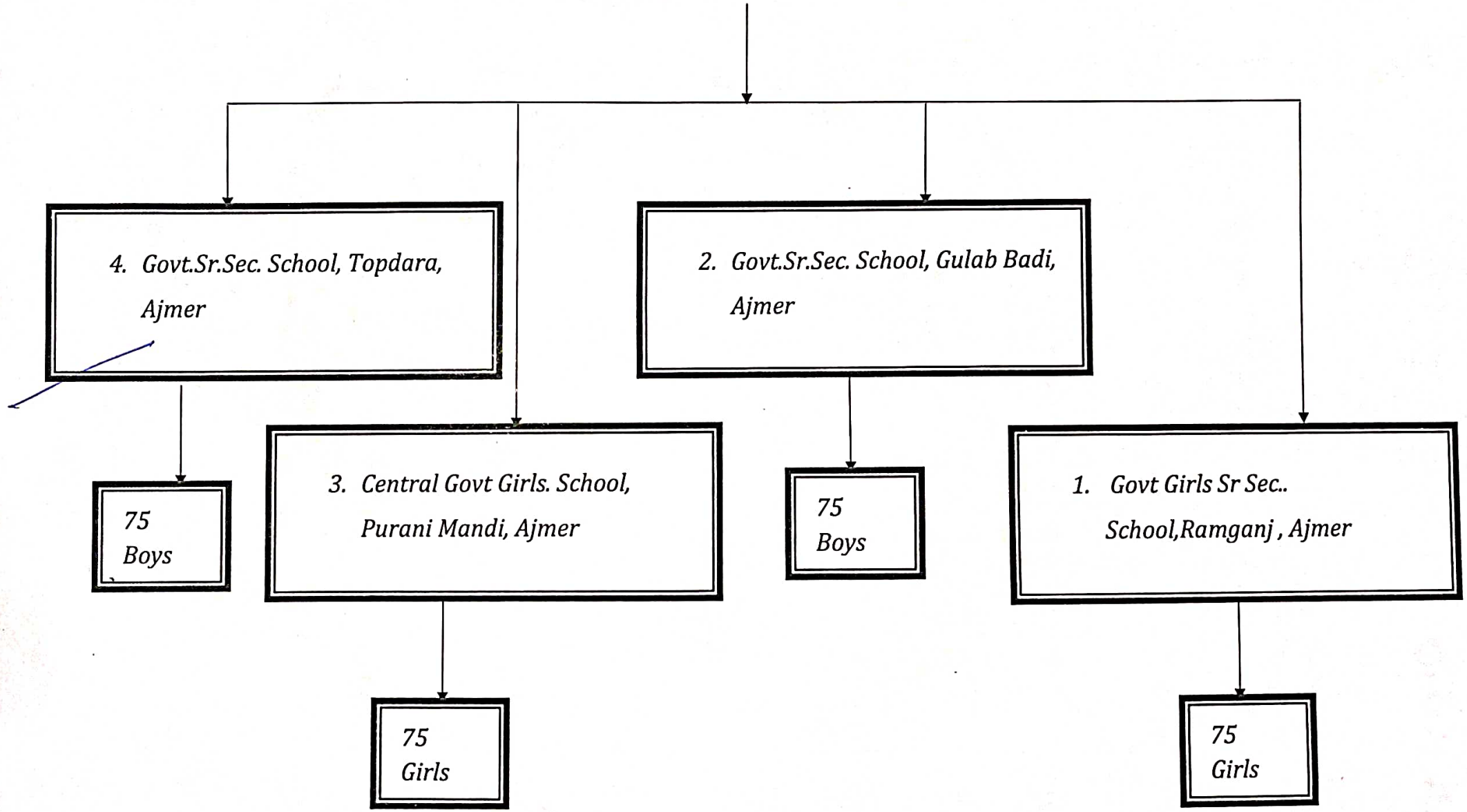
V. Assessment of impact of nutrition counselling on school going children and their parents.

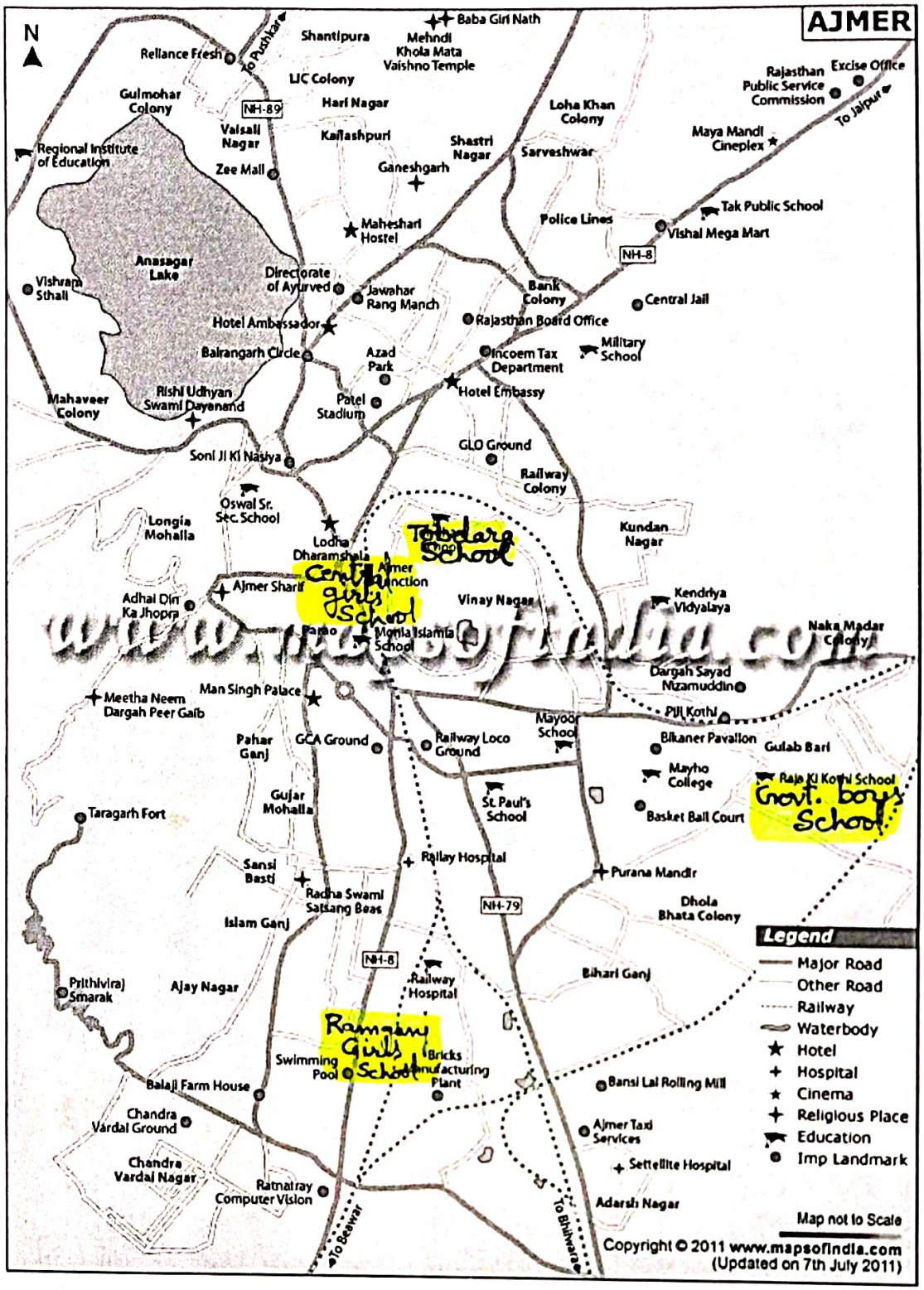
I. Collection of preliminary information

a. Locale of the study–The present study will be carried out in Ajmer.


AJMER
Urban Area
150
Rural Area
150
Govt. Sr.Sec.School, Ajmer
Govt. Sr.Sec.School, Ajmer
150 Boys
150 Girls
150 Boys
150 Girls

Govt. Sr.Sec.Schools, Ajmer in Urban Area


4. Govt.Sr.Sec. School, Topdara, Ajmer
2. Govt.Sr.Sec. School, Gulab Badi, Ajmer
1. Govt Girls Sr Sec.. School,Ramganj , Ajmer
3. Central Govt Girls. School, Purani Mandi, Ajmer
75 Boys
75 Boys
75 Girls
75 Girls



www.mapsofindia.com

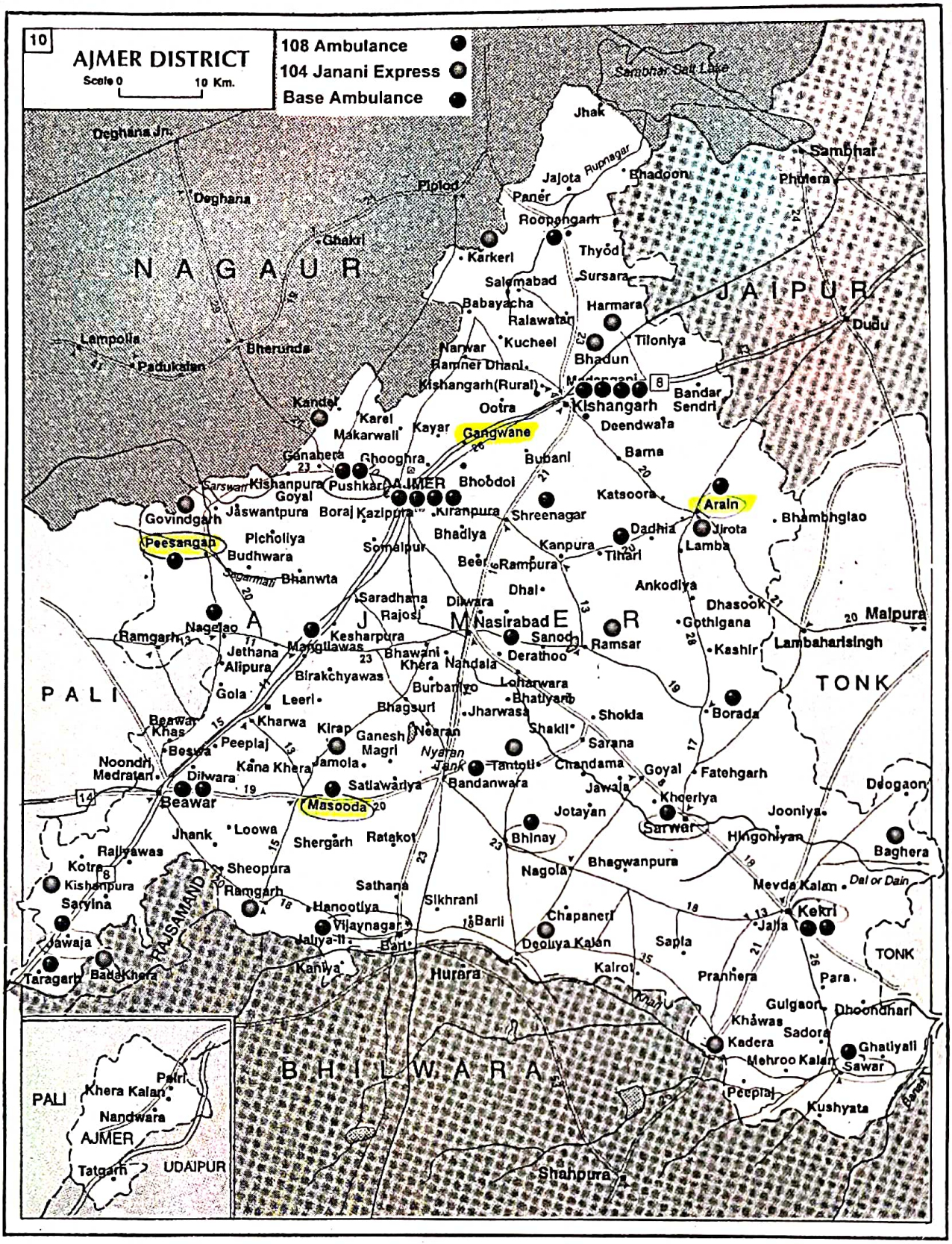
Govt. Sr.Sec.Schools, Ajmer in Rural Area

One School will be selected from 4 Panchayat Samities

Panchayat Samities 09
4 Panchayat Samities choosen out of total 9

- *Pisangan*
  - *1. Govt Girls Sr Sec.. School,Pisangan*
    - *75 Girls*
- *Shrinagar*
  - *2. Govt Sr Sec.. School, Shrinagar*
    - *75 Boys*
- *Masooda*
  - *3. Govt Girls Sr Sec.. School, Masooda*
    - *75 Girls*
- *Arain*
  - *4. Govt Sr Sec.. School, Arain*
    - *75 Boys*

Total 600 Students will be selected from urban and rural areas of Ajmer


10
AJMER DISTRICT
Scale 0 10 Km.
108 Ambulance
104 Janani Express
Base Ambulance
Sambhar Salt Lake
Jhak
Deghana Jn.
Deghana
Piplod
Jajota
Rupnagar
Bhadoon
Sambhar
Phulera
Paner
Roopangarh
Thyod
Ghakri
Karkeri
Salemabad
Sursara
N A G A U R
J A I P U R
Babayacha
Ralawatan
Harmara
Dudu
Lampolia
Bherunda
Padukalan
Kucheel
Tiloniya
Narwar
Bhadun
Ramner Dhani
Kishangarh(Rural)
Bandar Sendri
Kishangarh
Ootra
Deendwara
Kandel
Karel
Makarwali
Kayar
Gangwane
Bama
Ghoghra
Bubani
Ghenahera
Pushkar
AJMER
Bhoodoi
Katsoora
Arain
Kishanpura
Goyal
Govindgarh
Jaswantpura
Boraj
Kazipura
Kiranpura
Shreenagar
Bhambhglao
Dadhia
Jirota
Peesangan
Picholiya
Bhadiya
Somalpur
Kanpura
Lamba
Budhwara
Tihari
Beer
Rampura
Bhanwta
Ankodiya
Dhal
Saradhana
Dilwara
Dhasook
Nagelao
Rajos
Nasirabad
Sanod
Ramsar
Gothlgana
Malpura
Ramgarh
Kesharpura
Jethana
Mangilawas
Bhawani Khera
Derathoo
Kashir
Lambaharisingh
Alipura
Nandala
Birakchyawas
Loharwara
PALI
Gola
Leeri
Burbaniyo
Bhatiyani
TONK
Bhagsuri
Jharwasa
Shokla
Borada
Beawar Khas
Kharwa
Kirap
Ganesh Magri
Nearan
Shakli
Peeplaj
Nyaran Jank
Sarana
Beswa
Tantoti
Chandama
Noondri
Kana Khera
Jamola
Goyal
Fatehgarh
Medratan
Dilwara
Satlawariya
Bandanwara
Jawaja
Khoerlya
Doogaon
Beawar
Masooda
Jotayan
Joonlya
Sarwar
Jhank
Loowa
Shergarh
Ratakot
Bhinay
Hingoniyan
Baghera
Rajiyawas
Nagola
Bhagwanpura
Kotra
Sheopura
Sathana
Mevda Kalan
Dal or Dain
Kishanpura
Ramgarh
Sikhrani
Sarvina
Hanootiya
Chapaneri
Kekri
Vijaynagar
Barli
Jajia
Jawaja
Jaliya-ki
Dooliya Kalan
Sapla
TONK
RAJSAMAND
Taragarh
Bada Khera
Kanlya
Hurara
Kairot
Pranhera
Para
Khan
Gulgaon
Dhoondhari
Khawas
Sadora
Kadera
Ghatiyali
Mehroo Kalan
Sawar
Peeplal
Kushyata
Banas
B H I L W A R A
Shahpura
PALI
Pairi
Khera Kalan
Nandwara
AJMER
Tatgarh
UDAIPUR

b. Selection of subjects: Sample will be selected by Convenience Sampling. In the present study rural and urban government schools of Ajmer will be selected for sampling. A sample of 600 students will be selected. 300 students from rural schools and 300 from urban school will be selected for study purpose.

Selected samples will be –

- Between the age group from 6-12 years
- Willing to participate in the study.
- Available for pre and post questioning.

The detail study will be explained to the selected subjects.

II. Development of Tools and Collection of data :

General Information – To collect all detailed information a structured questionnaire will be developed.

i. General information of subjects – Pertaining to age, religion, caste, food habits, health status etc.

ii. Information regarding the family such as type, composition, educational status and occupation of the parents.

Specific Information – Specific information will depend on knowledge and practices of the respondents.

III. Assessment of Nutritional Status –

a. Anthropometry : Gomez Classification and Vishveshwara Rao's Classification will be used.

b. Clinical Examination : Presence of clinical signs and symptoms.

c. Biochemical Examination (Hb level)

d. Dietary Survery : (24 Hour Recall Method)

IV. Imparting Nutrition Education

Step I : Collecting general information.

Step II : Counselling Session for Parents :

I session : Content – Knowledge about nutrition, diet, balanced diet, recommended dietary allowances of students aged 6-12 years, nutrients, health, types of health, good eating habits, cleanliness, etc.

Teaching Aids : As per the information collected appropriate teaching methods and aids like charts, posters, food flags, flash cards, booklets, lectures etc. will be used for imparting nutrition education to suit the level of the sample.

II session : In second session information about cooking method will be given.

III session : In third session demonstration on methods of enhancing the nutritional value of foods like supplementation and combination and preservation and some nutritious recipes and snacks will be given.

Step III : Counselling session for Students

Session I : Content – Knowledge about nutrition, diet, balanced diet, recommended dietary allowances of students aged 6-12 years, nutrients, health, types of health, good eating habits, cleanliness, etc.

Teaching Aids : Story telling, flash cards, food flags, chart, posters, etc.

Session II : Follow up session : Recalling of the content provided in the I session.

V. **Assessment of impact of nutrition education on school going children and their parents.**

The goal of nutrition education is to bring a desirable change in food behaviour. After imparting nutrition education change in dietary habits and behaviour will be assessed with the help of a well structured questionnaire. A separate questionnaire for parents and students both will be formed to assess the impact of nutrition education.

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To,

The Director Research
MDS University
Ajmer
Dated 15/09/2015

SUBJECT: Submission of Synopsis after incorporating corrections suggested by RRC on 24/07/2015

Respected Sir,

I am Research Scholar in the Department of Food Science & Nutrition, MDS University, Ajmer. This has reference to your Letter No. F-15/Res/ F & N (2/2011)/MDSUA/49765 Dated 04/08/2015. I have incorporated the changes/ corrections suggested by RRC in the meeting held on 24/07/2015. I am submitting two copies of the corrected Synopsis which have been duly forwarded by the Research Supervisor and Head of the Department. This is to request you kindly issue the Registration Letter to me.

Thanking You.

Yours sincerely,
Shweta Singh

Forwarded By-

15/9/15

Prof. Bharti jain, Research Supervisor
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